

REMARKS

In the Office Action of September 8, 2008, claims 1-7, 9-11, 13 and 14 were rejected under 35 U.S.C. 103(a) as being obvious in view of Bode, U.S. Pat. Pub. No. 2003/0021922.

The rejection of claims 1-7, 9-11, 13 and 14 under 35 U.S.C. 103(a) as being obvious in view of Echols, U.S. Pat. Pub. No. 2002/0178582 has been withdrawn.

The basic issue is the teaching of Bode to one of ordinary skill in the art in view of the claim limitations of claim 1 of:

a collapsible outer cover around the outer stand-off layer, said collapsible outer cover having a construction which is less rigid than the construction of the outer stand-off layer;

wherein the outer stand-off layer is arranged to space the collapsible outer cover from the filter layer and is arranged to resist collapse of the cover towards the filter layer.

Limitations of comparable scope appear in independent claims 6, 9 and 10.

The Office action of September 5, 2008, on page 3, first partial paragraph, takes the following view:

[I]t would have been obvious to one of ordinary skill in the art at the time the invention was made to use an outer cover that was less rigid than the outer stand-off layer. As seen in figure 6, the outer layer is made from a thin sheet of material as compared to the thicker outer filter layer (20). Thus, when dealing with varying degrees of downhole pressure, and diameters, the outer cover will become less rigid than the outer stand-off layer upon final installation.

Thus, the Examiner assumes that according to Figure 6, the outer cover is thinner than the underlying stand off layer and that this would inevitably lead to the outer cover being less rigid than the stand off layers.

The Office Action goes on to state on page 3 as follows:

It is the assertion of the applicant that the outer shroud of Bode has a construction that is more rigid than the outer stand-off layer of Bode, because the outer cover is disclosed to "withstand downhole pressures". The examiner agrees that this is the disclosure of Bode,

but does not agree that his statement equates with the outer cover having a more rigid construction than the outer stand-off layer. As seen in Fig. 6, the outer cover has a very small thickness in comparison with the outer stand-off layer, thus implying a less rigid construction as they are disclosed as being made from the same material (para. 32). In addition downhole pressure in a wellbore has a very large variation depending on the well. An outer cover that can "withstand downhole pressures" need not be that strong at all.

Besides the remarks herein, Applicant submits a declaration one of the two joint inventors traversing these findings under 37 C.F.R. 1.132. In the remarks, references are made to this declaration that is submitted herewith.

To the above quoted statement, Applicants reply that the drawing which is Fig. 6 is not a reasonable representation of the actual arrangements of the well screen according to Bode. For instance, Figure 3 shows the same well screen in cross-section and in far greater detail which shows the outer cover 22 to be a similar thickness to the individual wires which make up mesh of the stand off layer.

Therefore, the thickness shown in Figure 6 is less representative than either the disclosure of Figure 3 or the text already discussed from [0029] which states: "the outer member 22 should be constructed with a sufficient well thickness to withstand the down hole radial pressure in the well including pressure created by collapsing wells of the well bore".

The diagram shown in Figure 6 appears to be a selected to support a position rather than read in the context of the full disclosure including Figure 3 and most importantly the discussion at [0029]. A proper reading of the specification is provided by the Declaration of G. Dowsett, paragraphs 5 and 6.

According to these parts of the disclosure, the outer member 22 must be stiffer than the stand off layer if it is intended to withstand the aforementioned pressure. Further, to consider the diagram shown in Figure 6 to have more weight than the specification is not an appropriate basis to reject the claims herein.

Further in light of Figure 3, where the thickness is comparable to individual wires of the mesh of the stand off layer, it is a matter of engineering design that a solid ring member of the same material and same thickness has a higher ring stiffness than an amalgamation of wires forming a mesh. We direct the examiner's attention to any engineering text calculating ring stiffness and in

particular any text published in the last 60 years by Stephen Timoshenko. While there will be some loss from the voids in the outer cover, this will be minor in comparison to the mesh.

Accordingly, it is concluded that the disclosure of Bode clearly states the outer cover must be stiffer than the stand off layer, both in text and by diagram. This is supported by the Declaration of G. Dowsett, paragraphs 4 and 5.

We next refer to the following finding in the Office action:

Office Action page 3 last sentence: "An outer cover that can "withstand down hole pressure" need not be that strong at all"

Reply: While it is appreciated that pressure can vary along the length of the well screen. This doesn't address the nature of the invention or its intended effect for the worst-case scenario.

Whether there is a variation or not is immaterial. What is relevant to the invention is whether a well screen can be subject to the two particularly high-applied loads of maximum design hydrostatic pressure and the effect of collapse of the bore under extreme conditions. Neither the present invention nor Bode would be necessary in conditions of low pressure whether a hydrostatic pressure condition or a collapse condition. In such circumstances, a simple plastic pipe would be sufficient. The invention is directed to withstanding significant differential pressure and extreme applied loads.

Bode clearly intends the outer cover to "...withstand the down hole radial pressures...", and so not collapse.

If the Examiner considers the outer cover of Bode collapsible, and that this outer cover is the main structural component of Bode, then none of the subsequent layers of Bode could be disclosed to be of more rigid construction than the outer cover. While not using these words, Bode is of an "exo-skeletal" construction having an outer cover more rigid than the inner layers. We submit that Bode does not disclose that any of the inner layers are more rigid than the outer cover, and that any interpretation of the outer cover being able to "withstand" the applied radial pressure must be consistent with this.

By clearly defining the collapsible outer cover of the present invention being less rigid than the stand-off layer, the present invention is using an "endo-skeletal" construction. Again, these terms are not used in the specification but are offered to assist the Examiner in understanding the

differences between Bode and the present invention.

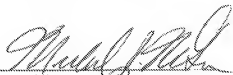
It is submitted that either Bode does not have a collapsible outer cover, or that the outer cover is of a more rigid construction than the inner layers. In either case, claims as amended are nonobvious over the disclosure of Bode as teaching in a different direction than Bode, once that teaching is correctly understood. And because normally, mesh is less rigid than the outer cover, it is nonobvious to reverse this relationship. It requires a deliberate intervention according to the present invention to make a downhole apparatus with the claimed features.

CONCLUSION

In view of the amendment and remarks, reconsideration of the application is respectfully requested. After the amendment, claims 1-7 and 9-14 are now pending and a Notice of Allowance for these claims is respectfully requested.

Respectfully submitted,

By:



Michael J. McGovern
Reg. No. 28,326
Boyle Fredrickson S.C.
840 North Plankinton Avenue
Milwaukee, WI 53203
(414) 225-6317
Attorney of Record